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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,379	12/03/2003	Frederic Guerin	PO8040/PS-1136	5580
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LANXESS CORPORATION 111 RIDC PARK WEST DRIVE PITTSBURGH, PA 15275-1112			EXAMINER FIGUEROA, JOHN J	
			ART UNIT	PAPER NUMBER

1712

DATE MAILED: 08/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/726,379

Applicant(s)

GUERIN ET AL.

Examiner

John J. Figueroa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 25 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The double patenting rejection in item 2 on page 3 of the Office Action of January 25, 2006, hereinafter 'OA', has been withdrawn in view of the amendment to the claims in Applicant's amendment/response filed May 25, 2006, hereinafter 'Response'.
2. The objections to the claims on page 4 of OA have been withdrawn in view of Response.
3. The 35 USC 112 rejection of claims 7-9 (item 4 on page 5 of OA) has been withdrawn in view of the amendment to said claims in Response.
4. The 35 U.S.C. 102(b) rejections in items 6-8 of OA, as anticipated by United States Patent Number (USPN) 2,714,562 to Hechtman, hereinafter 'Hechtman'; by USPN 3,600,268 to Hori, hereinafter 'Hori'; and by USPN 2,656,292 to Hoover, hereinafter 'Hoover', have been withdrawn due to the amendment of the claims in Response.

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 1-2, 4-7, 10-13 and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,683,819 to Mori et al., hereinafter 'Mori'.

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Claims 1 and 6 (the independent claims) have been amended to limit the adhesive polymer composite to require a *hydrogenated*, nitrile rubber polymer having a Mooney viscosity below 30.

Mori discloses a composite comprising a highly saturated nitrile rubber copolymer and a fibrous material (filler), said copolymer having a Mooney viscosity of 15 to 200, between 10 to 60% by weight of *unsaturated* nitrile units (i.e., 40-90% saturated) and further comprising butadiene units; wherein the composite exhibits good adhesion upon undergoing sulfur vulcanization (curing) thereby providing enhanced bond strength, mechanical strength and weather resistance making it particularly useful as a power transmitting or conveyer belt. (Abstract; col. 1, lines 7-19 and lines 44-56; col. 2, lines 25-44 and 60-65; col. 9, line 64 to col. 10, line 42; col. 19, lines 53-67; See, *particularly*, claim 6 in Mori) In addition to vulcanization, crosslinking of the copolymer can be accentuated by the presence of an alkylthio-containing monomer. (Col. 4, lines 40-61)

Mori discloses that the unsaturated nitrile-diene copolymer can be prepared by the copolymerization of an unsaturated nitrile monomer (such as acrylonitrile) and a conjugated diene monomer (e.g. butadiene) to form the copolymer, followed by hydrogenation prior to mixing with the fibrous material. (Col. 3, lines 9-13; col. 4, line 62 to col. 5, line 9) The composite is subsequently formed by mixing the hydrogenated rubber copolymer with a fibrous material, such as cotton; regenerated fibers; synthetic fibers, such as polyester fiber; and inorganic fibers, such as steel fiber, glass fiber or carbon fiber. (Col. 8, lines 36-67; col. 9, line 64 to col. 10, line 13) In forming the rubber

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formulation, other "auxiliaries" can be incorporated, such as various types of carbon black, silica, talc, and fillers, such as calcium carbonate and clay. (Col. 10, line 64 to col. 11, line 10)

In the Examples, Mori further discloses forming a sheet of a rubber formulation containing the hydrogenated copolymer of acrylonitrile and butadiene (col. 13, line 57 to col. 1, line 44) and coating aramid and glass fiber cords with this rubber formulation via a dipping treatment to provide composites that can subsequently be used as a belt (col. 18, lines 46-67; col. 19, lines 11-34; Table 6).

Thus, the claims, as amended, are anticipated by Mori.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,268,417 B1 to Ozawa et al., hereinafter 'Ozawa' in view of Mori.

Ozawa discloses a rubber composition having enhanced adhesiveness, modulus, set point and heat resistance for use in rolls, belts or other molded products; said composition comprising a hydrogenated acrylonitrile/butadiene copolymer rubber polymer, a crosslinkable polymer, a crosslinking agent (such as organic peroxide), and

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silica (and/or other fillers/additives); and wherein said rubber polymer has a high degree of hydrogenation (0-5% saturation). (Abstract; col. 1, lines 4-11; col. 2, line 44 to col. 3, line 25; col. 3, lines 32-65; col. 6, lines 34-41; col. 6, lines 60-67; col. 8, lines 18-26; See Examples including discussion of Adhesiveness Test results on col. 8-10 and Table 1)

Ozawa does not limit the Mooney viscosity for the hydrogenated nitrile rubber polymer. Nor does Ozawa explicitly disclose the molded product comprising said rubber polymer to be a sealant.

Mori was discussed above in paragraph #6, respectively. Mori further teaches that the highly saturated nitrile rubber copolymer should have a Mooney viscosity value between 15 and 200 to maintain its *bonding strength* (e.g. when used in a composite tape). If the Mooney value is below 15, satisfactory bonding strength may not be obtained. (Col. 2, lines 32-39)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to choose a hydrogenated nitrile rubber polymer having a Mooney value between 15 and 200 for the saturated nitrile rubber polymer component of Ozawa's composition. It would have been obvious for one skilled in the art to do so to incorporate the teachings in Mori and attain a resultant adhesive tape composite roll (or a resultant molded product that can be used as a sealant) having satisfactory bonding and high vulcanization strength.

Moreover, it would have been within the purview of one in the art to use Ozawa's molded composition as a sealant to take advantage of the high heat resistance and modulus of Ozawa's rubber polymer composition. Because Ozawa is silent as to the

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Mooney value, for certain sealant applications not requiring enhanced bonding strength, Mooney values for the rubber polymer of between 15 and 200 may not be necessary. One skilled in the art would be able to form a sealant with rubber polymers having Mooney values below 10 because Ozawa does not limit the rubber polymer viscosity. Applicant has not set forth any evidence of the criticality of the Mooney viscosity value for the hydrogenated nitrile rubber polymer to be below 10, particularly for composites used to form a sealant.

Thus, the claims as amended are unpatentable over Ozawa and Mori.

Response to Arguments

The Double Patenting Rejection (item 2 on page 3 of OA)

9. Applicant's arguments filed in response to the double patenting rejection have been considered but have become moot because this rejection has been withdrawn in view of Response.

The Objections to the Claims (pages 4-5 of OA)

10. Applicant's arguments filed in response to the claim objections have been considered but have become moot due to the withdrawal of these objections in view of Response.

The 35 U.S.C. 112 Rejection (item 4 on page 5 of OA)

11. Applicant's arguments filed regarding the 35 U.S.C. 112 rejection have been considered but have become moot due to the withdrawal of this rejection in view of Response.

The 35 U.S.C. 102 Rejections over Hechtman, Hori and Hoover (items 6-8 on pages 5-8 of OA)

12. Applicant's arguments filed regarding the 35 U.S.C. 102(b) rejections as anticipated by Hechtman, by Hori and by Hoover have been considered but have become moot due to the new grounds of rejection.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Figueroa whose telephone number is (571) 272-8916. The examiner can normally be reached on Mon-Thurs & alt. Fri 8:00-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JJF/RAG


MARGARET G. MOORE
PRIMARY PATENT EXAMINER
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